UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LEROY B. KEELY, SUSANNE ALYSIA CLARK CAZZANTI, DAN ALTMAN, and CHARLTON E. LUI

Appeal No. 2006-3038
Application No. 09/750,288

ON BRIEF

Before JERRY SMITH, BLANKENSHIP, and HOMERE, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-30, which constitute all the claims pending in this application.

The disclosed invention pertains to a technique for adding electronic ink to an electronically displayed document. Ink drawings and annotations are captured and stored with additional information that associates the ink with one or more displayed elements. Such an association ensures that the ink is

displayed as originally intended even if the displayed document is reformatted or reflowed.

Representative claim 1 is reproduced as follows:

1. A computer-implemented method for adding electronic ink to displayed information on a system having a display, said method comprising the steps of:
classifying said electronic ink based on a shape of said electronic ink;
associating said classified electronic ink with at least one object of said displayed information.

The examiner relies on the following references:

Wilcox et al. (Wilcox)	5,889,523	Mar. 30, 1999
Morishita et al. (Morishita)	6,335,727	Jan. 1, 2002 (filed Dec. 15, 1997)
Maxted	6,340,967	Jan. 22, 2002 (filed Apr. 23, 1999)
Huang	6,384,815	May 7, 2002 (filed Feb. 24, 1999)

The following rejections are on appeal before us:

1. Claim 8 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

2. Claims 2, 7, 8, and 27-29 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Morishita.

3. Claims 1, 3-6, and 14-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Morishita in view of Maxted.

4. Claims 9-13 and 22-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Morishita in view of Maxted and further in view of Wilcox.

5. Claim 30 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Morishita in view of Maxted and further in view of Huang.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of anticipation and obviousness relied upon by the examiner as support for the prior art rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that claim 8 particularly points out and distinctly claims the invention in a manner that complies with 35 U.S.C. § 112, second paragraph. We also conclude that the disclosure of Morishita fully meets the invention as set forth in claims 2, 7, and 27-29. We reach the opposite conclusion, however, with respect to claim 8. We are also of the view that the evidence relied upon and the level of skill in the

particular art would have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1, 5, 6, 9-15, 18-26, and 30. We reach the opposite conclusion, however, with respect to claims 3, 4, 16, and 17. Accordingly, we affirm-in-part.

We first consider the examiner's rejection of claim 8 under 35 U.S.C. § 112, second paragraph. The examiner indicates that the limitation calling for maintaining the relationship of the electronic ink to the at least one object "despite re-flowing of said displayed information by a layout engine" is unclear because the term "despite" does not clarify whether re-flowing occurs or not [answer, pages 3, 14, and 15]. Appellants respond that the re-flow concept is supported by at least Figs. 14-16 and pages 26-28 of the present application. Appellants note that the disclosure clearly teaches re-flowing the displayed information and maintaining the relationship between the electronic ink and the at least one object [brief, pages 21 and 22].

We agree with appellants. In light of the specification, the skilled artisan would reasonably understand that the term "despite" as claimed indicates that the claimed relationship is maintained during or after re-flowing of the displayed information as appellants indicate [reply brief, page 6]. The term "despite" essentially recites a necessary condition: the association of the electronic ink with the object(s) must ensure that the relationship between the ink and the object(s) is maintained if the displayed information is re-flowed. In our view, the skilled artisan would readily understand from the present disclosure that the

claimed association step must meet this condition. Since claim 8 particularly points out and distinctly claims the invention, we will not sustain the examiner's indefiniteness rejection of this claim.

We next consider the examiner's rejection of claims 2, 7, 8, and 27-29 under 35 U.S.C. § 102(e) as being anticipated by Morishita. The examiner has indicated how the claimed invention is deemed to be fully met by the disclosure of Morishita [answer, pages 4 and 5]. Regarding claim 2, appellants argue that Morishita does not disclose classifying the electronic ink, but rather merely allows the user to designate search regions within electronic ink [brief, pages 10 and 12]. Appellants also argue that Morishita does not disclose classifying electronic ink as embedded or overlaid ink [brief, page 13]. The examiner responds that the limitation calling for "classifying electronic ink" is fully met by Morishita's handwriting and erasing modes. The examiner further notes that the erasing mode shown in Fig. 31B fully meets "overlaid ink" as claimed [answer, pages 10, 12, and 13].

We will sustain the examiner's anticipation rejection of claim 2. In our view, selecting the erasing mode[1] -- a mode distinct from the writing mode -- effectively "classifies" that type of electronic ink as ink that erases. In this regard, we agree with the examiner that "classifying electronic ink" is fully met by Morishita's recognition that electronic ink can be used in different modes (i.e., writing or erasing) [see answer, page 10]. Furthermore, the electronic ink of

[1] See Morishita, Figs. 31A-C and col. 20, line 20 – col. 21, line 5.

Morishita is associated with objects of the displayed image (i.e., the electronic ink has a distinct spatial relationship to the underlying objects). Moreover, the electronic ink is "overlaid" onto the image to remove desired portions thereof. Although we do not agree with the examiner's contention that Morishita's embedding of a writing section using a special ink in the information writing section 11 meets the claimed embedded ink limitation [see Morishita, col. 30, line 64 – col. 31, line 10], the claim nevertheless recites embedded and overlaid ink in the alternative.[2] Since we find that Morishita reasonably discloses overlaid ink, that alternative is fully met. For the above reasons, all limitations of claim 2 are fully met by Morishita, and the examiner's anticipation rejection will therefore be sustained.

Regarding claim 7, appellants argue that Morishita does not disclose anchoring the electronic ink to the at least one object by adding a link at or near the object pointing to the electronic ink as claimed [brief, pages 19 and 20]. The examiner argues that the limitation is met by Morishita in Fig. 44A since the electronic ink in that figure is "anchored" to the circled written image. The examiner further notes that Morishita's link to a search region fully meets the claimed added link [answer, pages 7 and 14].

We will sustain the examiner's rejection of claim 7. Morishita enables the user to (1) identify certain writing content within a desired region, and (2) search the identified content from the information storing section 13. In Fig. 44A, for

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[2] Claim 2 recites, in pertinent part, "classifying...said electronic ink as one of embedded and overlaid ink" [emphasis added].

example, a closed curve is written with electronic ink on a sheet. When a pushbutton switch is double-clicked, the stroke information of the closed curve is recorded as special code corresponding to a search region. Accordingly, the user can search the content designated within the search region. The embodiment of Fig. 44B provides similar functionality except that the search region is defined by a rectangle instead of a closed curve [Morishita, col. 25, lines 29-58; Figs. 44A and B].

In our view, once the user draws the curved or rectangular search region, the search region is fixed, or "anchored," relative to the object(s) of the displayed information. Moreover, a data link between the region defined by the electronic ink and at least the information storing section is inherently established to facilitate the search function. This linked association fully meets the claimed link that points to the electronic ink. In short, all limitations of claim 7 are fully met by Morishita. Accordingly, the examiner's anticipation rejection of that claim is therefore sustained.

Regarding claim 8, appellants argue that Morishita does not re-flow displayed information including an object and maintain the relationship of the added electronic ink with the object as claimed. Appellants also argue that Morishita does not disclose a layout engine [brief, page 22; reply brief, page 6]. The examiner argues that Morishita's pen-based computer system inherently includes editing features, and that the encircled text shown in Morishita would

inherently be edited via a layout engine – a feature that is ostensibly "inherently available in any computer" [answer, page 15].

We will not sustain the examiner's rejection of claim 8. In short, we find the examiner's arguments merely speculative and unpersuasive. Even assuming that (1) Morishita necessarily has a text editor, and (2) this inherent text editor somehow functions as a layout engine as claimed, the examiner has simply not shown how the text editor (or any other component of Morishita) re-flows the displayed information, yet maintains the relationship of the electronic ink to the object(s) despite re-flow as claimed. Even if the text within the curved or rectangular search region of Figs. 44A and 44B were edited as the examiner seems to suggest, we fail to see how Morishita's system necessarily accounts for such changes by altering the relationship between the search region and the edited text (i.e., so that the original ink-to-object relationship is maintained). For at least the above reasons, Morishita does not disclose all limitations of claim 8. Therefore, we will not sustain the examiner's anticipation rejection of that claim.

Regarding claims 27 and 28, appellants argue that Morishita does not disclose a processor that (1) classifies electronic ink and associates electronic ink with the content; (2) transforms the electronic ink; and (3) outputs the transformed electronic ink [brief, page 30]. The examiner essentially reiterates the arguments made with respect to claim 2, but adds that the limitation calling for outputting transformed electronic ink is fully met by Morishita's displaying the ink on a display device [answer, page 16].

We will sustain the examiner's rejection of claims 27 and 28. In our view, the eraser embodiment shown in Figs. 31A-C and described in col. 20, line 20 – col. 21, line 5 fully meets the claims. As we indicated previously, electronic ink for erasing is effectively classified as such.[3] We further note that erasing the selected portions of the image via overlaid electronic ink fully meets transforming the ink. Moreover, displaying the image after erasing fully meets outputting the transformed electronic ink (i.e., to a display). Since all limitations of claims 27 and 28 are disclosed by Morishita, the examiner's rejection of those claims is therefore sustained.

Regarding claim 29, appellants argue that Morishita does not disclose embedded ink that occupies an in-line flow of at least one object as claimed [brief, page 31]. Claim 29, however, depends from independent claim 2 which recites embedded ink as an alternative to overlaid ink.[4] Although claim 29 further narrows the embedded ink limitation, it has no effect on the alternative directed to overlaid ink. As a result, our previous discussion regarding overlaid ink applies equally here and we incorporate that discussion by reference.[5] Therefore, the examiner's anticipation rejection of claim 29 is sustained.

We next consider the examiner's rejection of claims 1, 3-6, and 14-21 under 35 U.S.C. § 103(a) as being unpatentable over Morishita in view of Maxted. Regarding independent claims 1 and 14, the examiner's rejection essentially finds that Morishita teaches every claimed feature except for

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[3] See page 5, supra, of this opinion.
[4] See pages 5 and 6, supra, of this opinion.
[5] See id.

classifying the electronic ink based on a shape of the ink. The examiner cites Maxted as teaching such a feature and finds that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Morishita to use shape as a factor in classifying the electronic ink to reduce the number of symbols needed [answer, pages 6 and 7]. Among other things, appellants argue that Maxted merely allows a user to place edit symbols in a selection window, and there is no reason to modify Morishita's search region embodiment with Maxted's edit symbols [brief, pages 10-11; reply brief, pages 2 and 3]. The examiner responds that Maxted teaches that different shapes of electronic ink produce different text editing functions. According to the examiner, including such a feature in Morishita's system would result in fewer strokes needed to edit text [answer, pages 11 and 12].

We will sustain the examiner's rejection of claims 1 and 14. Although the examiner's rejection is based on obviousness, we find that both Morishita and Maxted actually anticipate the claims.

For example, Morishita's curved and rectangular search regions in Figs. 44A and B fully meet the claimed classification step in that the curved region corresponds to "Select Mode 1," and the rectangular region corresponds to "Select Mode 2" [see Morishita, col. 25, lines 42-58]. Simply put, the electronic ink is "classified" as corresponding to Select Mode 1 or 2 based on whether it is curved or rectangular. Also, the ink is associated with at least one object of the displayed information for the reasons previously discussed.

Maxted also anticipates claims 1 and 14. The sixteen edit symbols drawn in electronic ink that are shown in Fig. 8A are certainly classified functionally based on their shape. In short, each symbol has a unique shape that is associated with a corresponding unique function. In operation, when the user activates the selection mode, the user selects the text of interest which is then highlighted (i.e., an "object" of the displayed information is formed). An accompanying selection window 24 opens, and the user then draws one of the set of sixteen edit symbols within the selection window to execute the corresponding editing function with respect to the selected text [Maxted, col. 7, line 44 – col. 8, line 3; Figs. 5 and 8A]. In short, drawing an edit symbol in the selection window associates the symbol and its associated function with the object (selected text).

Although both Morishita and Maxted anticipate claims 1 and 14, obviousness rejections nevertheless can be based on references that happen to anticipate the claimed subject matter. In re Meyer, 599 F.2d 1026, 1031, 202 USPQ 175, 179 (CCPA 1979). Moreover, in affirming a multiple-reference rejection under 35 U.S.C. § 103, the Board may rely on less than the total number of references relied on by the examiner. In re Bush, 296 F.2d 491, 496, 131 USPQ 263, 266- 67 (CCPA 1961); In re Boyer, 363 F.2d 455, 458 n.2, 150 USPQ 441, 444 n.2 (CCPA 1966). In short, the teachings of Morishita and Maxted are merely cumulative to each other with respect to claims 1 and 14. Nevertheless, we agree with the examiner that the teachings of Maxted would

have been reasonably combinable with Morishita essentially for the reasons stated by the examiner. For the above reasons, the examiner's rejection of claims 1 and 14 is therefore sustained.

Regarding claim 15, our previous discussion regarding Morishita's disclosure of overlaid ink applies equally here and we incorporate that discussion by reference.[6] The examiner's rejection of claim 15 is therefore sustained.

Regarding claims 3 and 16, the examiner cites Morishita's determination of the ink's width as "indicative" of determining the claimed distance to other annotations as claimed [answer, page 7 and 13]. Regarding claims 4 and 17, the examiner adds that Morishita's width determination teaches determining the ratio of the ink's height to its width [answer, pages 7 and 14]. Appellants argue, among other things, that Morishita does not disclose "other annotations," let alone determining the distance to such other annotations [brief, pages 15 and 16; reply brief, page 3]. Appellants further argue that since Morishita fails to teach determining ink height; therefore, the reference cannot teach determining the claimed height-to-width ratio [brief, pages 16 and 17; reply brief, page 4].

We will not sustain the examiner's rejection of claims 3, 4, 16, and 17. Regarding claims 3 and 16, Morishita simply does not determine the electronic ink's distance to other annotations as appellants indicate. Merely measuring width of electronic ink hardly suggests that other annotations exist at all, let alone determining the distance to such other annotations as claimed. Regarding

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[6] See pages 5 and 6, supra, of this opinion.

claims 4 and 17, while Morishita measures the width of the ink, the reference simply fails to teach or suggest determining a ratio of the ink's height to its width. Moreover, Maxted fails to cure these deficiencies since the reference does not teach nor suggest the claimed distance or ratio determinations. Since neither Morishita nor Maxted fairly teaches or suggests the limitations of claims 3, 4, 16, and 17, the examiner's rejection of these claims is therefore reversed.

We will, however, sustain the examiner's rejection of claims 5, 6, 18, and 19. As we discussed previously, the claims are fully met by Morishita's ink-based search regions in Figs. 44A and 44B that are "anchored" to displayed objects and linked to displayed information. Our previous discussion of this embodiment of Morishita applies equally here and we incorporate that discussion by reference.[7] Regarding claims 6 and 19, we add that the data link that is established between the region defined by the electronic ink and at least the information storing section to facilitate searching involves accessing memory as the examiner indicates [see answer, page 7]. We find this interpretation would have reasonably suggested anchoring the ink to a file position as claimed. The examiner's obviousness rejection of claims 5, 6, 18, and 19 is therefore sustained.

Likewise, we will sustain the examiner's rejection of claim 20 essentially for the reasons previously discussed with respect to the limitations of claim 7.

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[7] See pages 6 and 7, supra, of this opinion.

Our previous discussion of the searching feature of Morishita applies equally here and we incorporate that discussion by reference.[8]

We next consider the examiner's rejection of claims 9-13 and 22-26 under 35 U.S.C. § 103(a) as being unpatentable over Morishita in view of Maxted and further in view of Wilcox. The examiner indicates that Morishita and Maxted disclose all of the claimed subject matter except for classifying the electronic ink as in-line words, text marks, in-line paragraphs and sketches, margin notes, or as a connector. The examiner cites Wilcox as teaching such features and concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to include such features in the prior art system to, among other things, provide an accurate selection technique for graphical editing [answer, pages 8 and 9].

Appellants argue that Wilcox does not disclose the various classifications recited in claims 9-13 and 22-26 [brief, pages 24-30]. Appellants further argue that the examiner failed to establish a reason why the skilled artisan would combine the cited prior art [brief, page 25]. The examiner responds that Wilcox not only discloses the claimed limitations, the reference also provides the motivation to combine [answer, page 16].

We will sustain the examiner's rejection. Wilcox discloses a technique that dynamically groups multiple graphical objects (e.g., digital ink) such as drawings or non-text notes. In particular, the graphical objects are selected by

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[8] See id.

word, line, or paragraph in a manner analogous to selection in a typed-text system [Wilcox, col. 2, lines 16-23]. In our view, the graphical objects shown in Figs. 3, 8, and 9 of Wilcox reasonably comprise, among other things, in-line words, paragraphs, sketches, margin notes, and connectors. Moreover, multiple graphical objects are clustered based, at least in part, on distance between the graphical objects [Wilcox, abstract and col. 2, lines 27-33]. Based on this teaching along with the collective teachings of the other cited references, we agree with the examiner that the skilled artisan would have been motivated to classify the ink in the manner claimed to more accurately edit documents with handwritten elements. The examiner's obviousness rejection of claims 9-13 and 22-26 is therefore sustained.

We next consider the examiner's rejection of claim 30 as being unpatentable over Morishita in view of Maxted and further in view of Huang. The examiner indicates that although Morishita discloses a chain of strokes, the reference does not associate a center of the chain of strokes with at least one object as claimed. The examiner cites Huang as teaching a conformation process that centers individual highlighting strokes on their associated text line. The examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to provide such a feature in Morishita's device to adapt the device to a particular user's writing style [answer, page 9]. Appellant contends that Huang adds nothing pertinent to Morishita and the references fail to teach or suggest the claimed features [brief, page 32].

We will sustain the examiner's rejection of clam 30. We agree with the examiner that the claimed association step does not preclude the conformation process of Huang. In short, we see no reason why the skilled artisan would not provide such a conformation process that centers individual strokes on their associated text line in the system of Morishita and Maxted essentially for the reasons stated by the examiner. Moreover, the examiner's position has not been persuasively rebutted. Accordingly, the examiner's rejection of claim 30 will be sustained.

In summary, we have not sustained the examiner's rejection of claim 8 under 35 U.S.C. § 112, second paragraph. Also, we have not sustained the examiner's prior art rejection of claims 3, 4, 8, 16, and 17. We have, however, sustained the examiner's rejection of claims 1, 2, 5-7, 9-15, and 18-30.

Therefore, the decision of the examiner rejecting claims 1-30 is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

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